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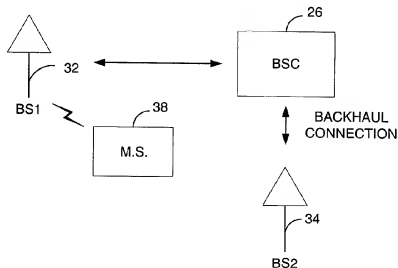
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(54) Title: METHOD AND APPARATUS FOR CALL RECOVERY IN A WIRELESS COMMUNICATION SYSTEM



(57) **Abstract:** A method and apparatus for call recovery in a wireless communication system (10). When the communication link between a mobile station (38) and a base station (32) is in trouble, the mobile station and the infrastructure prearrange potential rescue base stations (34). The source cell base station contacts all recovery-capable neighbors as potential rescuers. Each rescue base station is instructed to use a default channel for rescue transmissions. The rescue transmission is considered a call recovery operation. The mobile station establishes a soft hand-off with rescue base station, wherein the M.S. uses the default channel and an alternate channel. Once hand-off is complete the rescue base station discontinues use of the default channel. In one embodiment, the source cell base station provides the mobile station with the list of recovery-capable neighbors as overhead during transmissions and prior to development of the communication link problem.



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

 International App. No.
 PCT/US 01/44566

 A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 H04Q7/38 H04Q7/32

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H04Q H04B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 267 261 A (TIEDEMANN JR EDWARD G ET AL) 30 November 1993 (1993-11-30) column 3, line 11 -column 4, line 43 ---	1,2,4-9
X	EP 0 624 994 A (NIPPON TELEGRAPH & TELEPHONE) 17 November 1994 (1994-11-17) column 6, line 44 -column 7, line 19 column 7, line 42 -column 8, line 44 ---	1,2
X	US 5 574 996 A (RAITH ALEX K) 12 November 1996 (1996-11-12) column 2, line 22 - line 37 column 6, line 9 - line 21 ---	13
X	US 5 101 501 A (GILHOUSEN KLEIN S ET AL) 31 March 1992 (1992-03-31) column 11, line 7 - line 22 --- -/--	14

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *Z* document member of the same patent family

Date of the actual completion of the international search

30 October 2002

Date of mailing of the international search report

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INTERNATIONAL SEARCH REPORT

International Ap i No
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 98 05175 A (ERICSSON TELEFON AB L M) 5 February 1998 (1998-02-05) page 7, line 34 -page 9, line 10 -----	18

INTERNATIONAL SEARCH REPORT

International Application No.
PCT/US 01/44566

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international Search Report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☒ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
1-9, 13-20

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/SA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-9

Method of triggering call recovery

2. Claims: 10-12

Method of determining the default channels for call recovery

3. Claim : 13

Wireless apparatus optimising power transmission

4. Claims: 14-17

Wireless apparatus adjusting power level when recovering a call

5. Claims: 18-20

Computer program avoiding interference between special events and the call recovery procedure

INTERNATIONAL SEARCH REPORT

Information on patent family members

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